NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
FACT SHEET

(pursuant to NAC 445A.236)

Permittee Name: Niotan, Inc.
16 Bruce Way
Mound House, NV 89706

Permit Number: NEV2007510

Location: 16 Bruce Way
Mound House, Lyon County, Nevada
Township 16N, Range 21E, Section 20

Location of Facility:
Latitude: 39° 14' 00"N,
Longitude: 119° 39' 14"W

Drinking Water Protection Area / Wellhead Protection Area: The Niotan, Inc. production facility is within the 1000' zone but outside the 100' zone around two public water supply wells. The facility meets the recognized State of Nevada zero-discharge standard of performance.

General: Niotan, Inc. produces highly purified capacitor grade tantalum powder using the Sodium Reduction process. In this process, impure Potassium Tantalum Fluoride (K_2TaF_7) is reacted with elemental Sodium, under high temperature in a sealed reactor and in the presence of molten Potassium Chloride and Fluoride salts, to produce Tantalum powder. When the reaction is complete, the Tantalum is present as an intimate mixture of tantalum powder and salt. The mixture is then processed by crushing and by washing with water treated to less than 1 ppm Total Dissolved Solids by Reverse Osmosis (RO). Following washing, the Tantalum powder is purified by reaction with Hydrochloric, Nitric, and Hydrofluoric acids, and then is finally washed with RO treated water. No metals other than Sodium and Tantalum are involved in the process. No organic chemicals are used. No hazardous materials are produced.

The water source for the process is the Mound House public water system. Process fluids are extensively recycled within the operation. The RO waste stream (brine), water from the initial washing of the tantalum powder, and the neutralized waste acid stream are treated by evaporation to produce distilled water that is further used in the process. Dilute solutions from the final washing steps are recycled through the RO system, and the resulting purified water is again used in the process.

The fluid stream managed in this operation is the highly concentrated salt solution produced in the evaporation process, or "evaporator bottoms". This solution generally has a Total Dissolved Solids (TDS) concentration of 100,000 to 150,000 mg/l, consisting mostly of NaCl, NaF, KCl, and KF, with minor amounts of nitrate and magnesium. This solution is currently being used for dust control at the Lockwood Landfill in Storey County. The Lockwood Landfill meets the Resource Recovery and Conservation Act (RCRA) Subtitle D requirements for Municipal Solid Waste Landfill Facilities (MSWLF). As stated, the brine solution is used for dust control within the footprint of the landfill, and will not be used on perimeter roads or side-slopes of the facility. It is the Permittee's intention to continue this practice, and will install as part of the facility a truck load-out facility with

secondary containment. During the periods that water is not needed at the landfill, the waste stream will be discharged to a 0.31 acre double-lined and leak-detected pond for storage. The pond is designed to contain wastewater generated in 20 days of production with a 3 foot minimum free board. The pond and associated appurtenances are to be constructed in compliance with NDEP guidance document WTS-37. A pump will be installed to recover fluid from the pond for truck load out.

Receiving Water Characteristics: The hydraulic fluid storage system is to be maintained in a zero-discharge condition with no discharge allowed to ground or surface waters.

Geotechnical borings and pits at the site did not encounter groundwater within the first 16.5 feet below ground surface (bgs). A log for a well completed near the facility site in 1989 reported static water level of 125 feet bgs. Groundwater degradation due to facility activity is not anticipated.

Effluent Flow and Characteristics: The process is a zero-discharge system with water being discharged to and covered from the double lined impoundment for ultimate disposal at the Lockwood Landfill. The facility anticipates a daily maximum flow rate of 20,000 gallons per day (gpd), based on proposed production expansion.

Proposed Monitoring Requirements and Special Conditions: The Permittee shall be required to monitor activities at the facility according to the following groundwater and surface storage monitoring schedule:

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow (gallons/day)	7,500	20,000	Continuous (Report Quarterly)	Flow Meter
Leak Detection Sump Inflow (gallons/day)	50	Monitor & Report	Weekly (Report Quarterly)	Calculate
Total Dissolved Solids (mg/l)	Monitor & Report		Quarterly	Discrete
Profile I Analyses	Monitor & Report		Annually (Report in 4th Qtr Report)	Discrete

Schedule of Compliance:
The Permittee shall comply with the terms of the permit upon issuance. The following Schedule of Compliance items shall be completed:

- **By December 1, 2007,** the Permittee shall submit certification from Washoe County that the Permittee is authorized to provide facility wastewater to Lockwood Landfill for dust control purposes.

- **By, January 1, 2008,** the Permittee shall submit an Operations and Maintenance (O&M) Manual for the facility, prepared and stamped by a Professional Engineer registered in the State of Nevada, for review and approval.

Rationale for Permit Requirements: The Division's rationale for the proposed monitoring conditions is as follows:

- ***Flow and Leak Detection***: Flow to the wastewater impoundment and volumes of water collected from the leak detection system are monitored so that potential leakage can be quickly discovered and remedied, to maintain pond integrity.

- ***Total Dissolved Solids***: TDS is monitored to keep NDEP and the Permittee apprised of the quality and composition of any fluid stored in the pond.

- ***Profile I Analysis***: Various parameters, including metals concentrations, are monitored in the Profile I analysis. This permit requirement is in place to monitor any metals that may be present as contaminants in the raw materials of the tantalum recovery process.

Procedures for Public Comment: The Notice of the Division's intent to issue (renew) a zero-discharge permit to the applicant, subject to the conditions contained within the permit is being sent to the **Nevada Appeal and the Mason Valley News** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of thirty (30) days following the date of publication of the public notice in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is **December 28, 2007 by 5:00 P.M.**

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons.
The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination:
The Division has made the tentative determination to issue the permit for the proposed zero-discharge permit for a period of five (5) years.

Prepared by: Janine O. Hartley
Staff Engineer II
Bureau of Water Pollution Control